

## ABSTRACT

The invention relates to a new method and system for optimizing the efficiency of an automotive catalytic converter by adjusting the engine air/fuel ratio based on estimates of the actual amount of oxidants stored in the catalyst. The oxidant storage capacity of the catalyst is adjusted by controlling engine spark in response to an estimate of a current amount of oxidants stored in the catalyst and an estimate of the total available oxidant storage capacity of the catalyst. To maintain engine speed in spite of adjustments to the engine spark, the engine air mass is also adjusted.

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